

Animal-Free BMP-3 Protein, Human (His)

Cat. No.:	HY-P700026AF
Synonyms:	Osteogenin; BMP-3A
Species:	Human
Source:	E. coli
Accession:	P12645 (Q363-R472)
Gene ID:	651
Molecular Weight:	Approximately 13.34 kDa

PROPERTIES

AA Sequence	<p> M Q W I E P R N C A R R Y L K V D F A D I G W S E W I I S P K S F D A Y Y C S G A C Q F P M P K S L K P S N H A T I Q S I V R A V G V V P G I P E P C C V P E K M S S L S I L F F D E N K N V V L K V Y P N M T V E S C A C R </p>
Biological Activity	<p>1. Measure by its ability to induce alkaline phosphatase production by ATDC5 cells. The ED₅₀ for this effect is <9.5 ng/mL.</p> <p>2. Measure by its ability to inhibit BMP-2-induced alkaline phosphatase production by ATDC5 cells. The ED₅₀ for this effect is <10 µg/mL.</p>
Appearance	Lyophilized powder
Formulation	Lyophilized from a solution containing 20 mM sodium citrate, 0.2 M NaCl, pH 3.5.
Endotoxin Level	<0.1 EU per 1 µg of the protein by the LAL method.
Reconstitution	It is not recommended to reconstitute to a concentration less than 100 µg/mL in ddH ₂ O.
Storage & Stability	Stored at -20°C for 2 years. After reconstitution, it is stable at 4°C for 1 week or -20°C for longer (with carrier protein). It is recommended to freeze aliquots at -20°C or -80°C for extended storage.
Shipping	Room temperature in continental US; may vary elsewhere.

DESCRIPTION

Background	<p>BMP-3 Protein, a member of the TGF-beta superfamily, plays a crucial role in developmental processes, particularly in inducing and patterning early skeletal formation, while concurrently acting as a negative regulator of bone density. Notably, it counteracts the osteogenic BMPs' ability to induce osteoprogenitor differentiation and ossification. The initiation of signaling cascades involves BMP-3 associating with the type II receptor ACVR2B, activating both SMAD2-dependent and SMAD-independent pathways, including TAK1 and JNK pathways. Structurally, BMP-3 exists as a homodimer linked by disulfide bonds and interacts with the type II receptor ACVR2B to exert its regulatory functions.</p>
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Caution: Product has not been fully validated for medical applications. For research use only.

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